Special Articles and Association Notes

The Manitoba Medical Association Review

Formerly the Bulletin of the Manitoba Medical Association

ESTABLISHED 1921

WINNIPEG, NOVEMBER, 1936

Published Monthly by the
MANITOBA MEDICAL ASSOCIATION
Editorial Office
101 MEDICAL ARTS BUILDING, WINNIPEG

Editor
C. W. MACCHARLES, M.D. (MAN.)
Advisory Editor
ROSS B. MITCHELL, B.A., M.D., C.M. (MAN.), F.R.C.P.(C.)
Business Manager
J. GORDON WHITLEY
Annual Subscription - $2.00

Editorial or other opinion expressed in this Review is not necessarily sanctioned by the Manitoba Medical Association.

MINUTES OF SPECIAL EXECUTIVE MEETING

September 25, 1936.

Minutes of a Special Meeting of the Winnipeg Members of the Executive of the Manitoba Medical Association, held in the Medical Arts Club Rooms on Friday, September 25th, 1936, at 12.30 noon.

Present.

Dr. J. D. Adamson (Chairman), Dr. C. W. Burns, Dr. F. W. Jackson, Dr. P. H. T. Thorlakson, Dr. S. G. Herbert, Dr. W. G. Campbell, Dr. F. G. McGuinness, Dr. E. S. Moorhead.

Guests.

Dr. T. C. Routley (Toronto), Dr. J. C. McMillan, Dr. Ross Mitchell, Dr. J. D. McQueen, Dr. W. Harvey Smith, Dr. C. W. MacCharles.

A special meeting was called to meet Dr. T. C. Routley, Secretary of the Canadian Medical Association, who was on his way through to the east.

Dr. Routley reported on the two provincial meetings in Alberta and Saskatchewan, and gave a review of the negotiations of various provincial associations in reference to Federation to date.

Discussion took place as to the advisability of calling the representatives from all the provinces together at some central point to go into the matter of Federation in detail, as this suggestion had been made at the Annual Meeting of the Canadian Medical Association in Victoria. However, it was pointed out by Dr. E. S. Moorhead the understanding of this association was that each association would appoint its own committee on Federation, one of the members on this Committee being the Provincial representative on the Canadian Medical Association Executive and that at the Executive Meeting of the Canadian Medical Association all the provincial representatives should get together and bring forward the deliberations of each provincial committee in order that the differences of opinion and difficulties might be considered and ultimately ironed out. It was thought possibly at some later date after the main points had been discussed and clarified by the provincial members on the executive that it might be advisable for the whole Committee to meet.

The meeting adjourned at 2.15 p.m.

MINUTES OF EXECUTIVE MEETING

October 22, 1936.

MINUTES of a Meeting of the Executive of the Manitoba Medical Association held in the Medical Arts Club Rooms on Thursday, October 22nd, 1936, at 6.30 p.m.

Present.

Dr. Geo. Clingan (Chairman)
Dr. F. W. Jackson
Dr. P. H. T. Thorlakson
Dr. S. Bardal
Dr. S. G. Herbert
Dr. E. S. Moorhead
Dr. W. S. Peters
Dr. J. D. Adamson
Dr. F. G. McGuinness
Dr. E. K. Cunningham
Dr. R. E. Dicks
Dr. W. E. R. Coad
Dr. W. G. Campbell
Dr. O. C. Trainor

Following luncheon, the President called the meeting to order and the Secretary read the minutes of the last Executive Meeting held on September 18th, also minutes of a special meeting of the Winnipeg members held on September 25th, and after being duly moved and seconded these minutes were approved by the Executive.

The Secretary reviewed the business arising out of the minutes and advised that Dr. Strong's letter had been turned over to the Winnipeg members of the Executive, but a meeting to deal with same had not yet been held: Dr. James McKenty's report was referred back to the Winnipeg Medical Society asking if there was any further disposition of the matter that they might wish us to make: Dr. Cairn's letter had been forwarded to Dr. T. C. Routley in Toronto, and acknowledgment of same had been received from his office.

APPOINTMENT OF COMMITTEES.

It was duly moved and seconded that the following be appointed Chairmen of Committees as listed below:

Legislative Committee.

Dr. G. S. Fahrni.

Radio Committee.
Dr. R. W. Richardson.

Committee on Historical Medicine and Necrology.
Dr. Ross B. Mitchell.

Committee on Maternal Mortality.
Dr. J. D. McQueen.

Editorial Committee.
Dr. C. W. MacCharles.

Editorial Board of C.M.A. Journal.
Dr. Ross B. Mitchell
Dr. E. S. Moorhead
Dr. C. W. MacCharles.

Committee on Sociology.
Dr. E. S. Moorhead.

Workmen's Compensation Referee Board.
Dr. W. Chestnut.

Representative to Manitoba Sanatorium Board.
Dr. F. A. Benner.

Auditors.
Dr. F. G. McGuinness
Dr. S. G. Herbert.

MEETING OF UNITED FARMERS OF MANITOBA.

It was reported that Dr. C. R. Rice had been requested by the United Farmers of Manitoba, through the College of Physicians and Surgeons, to address a meeting of that body to be held at Neepawa within the next week. Dr. Rice was asking permission from the Executive if he could extend to them an invitation to have a speaker from their body address the doctors at a future meeting of this Association. Discussion followed by Drs. Peters, Adamson and Clingan, and it was felt that we should ask the United Farmers to provide a speaker, preferably for some luncheon and possibly at next Annual Meeting. This would tend to make a better understanding between the profession and the United Farmers.

It was moved by Dr. J. D. Adamson, seconded by Dr. W. S. Peters: That Dr. Rice be authorized to extend a formal invitation to the United Farmers of Manitoba to provide a speaker at our next Annual Meeting.

The Secretary was instructed to forward an official letter to them in this regard. —Carried.

RE. TRAINING SCHOOLS FOR NURSES.

The Secretary advised that the President of the University desired information regarding training schools for nurses, and in order to get definite data he had prepared a questionnaire, which, it was suggested, should be forwarded to all doctors throughout the province who are practising in points outside of the hospital areas.

Discussion followed. Dr. Thorlakson stated he did not think the information obtained by such a questionnaire would be of any advantage. Dr. Jackson explained the facts leading up to this and that the Nurses Association were claiming that nurses trained in small hospitals were not of equal value with nurses trained in larger hospitals. Dr. Clingan explained that his experience was that nurses from the smaller hospitals were more qualified as most of the work in the larger hospitals was done by internes, and the nurses from larger hospitals therefore lacked confidence in themselves. Dr. Bardal stated he did not think the questionnaire should be excluded from doctors in hospital towns. Dr. Cunningham advised that he had considerable experience in employing nurses and he felt it depended entirely on the nurse herself. Dr. Dicks agreed with Dr. Bardal and the questionnaire should be forwarded to towns where there are hospitals. Dr. Jackson stated they were obliged to make some endeavor to get information for the President of the University, and he felt the questionnaire was about the only means of doing so. Dr. Thorlakson suggested that if this was the case, a further question should be added as follows: Is there a training school in your district, if so, at what point?

It was moved by Dr. S. Bardal, seconded by Dr. J. D. Adamson: That this questionnaire with the addition of the extra question as suggested by Dr. Thorlakson be sent to all members of the profession in Manitoba outside of Greater Winnipeg. —Carried.

FEDERATION.

The Secretary explained that the Executive were no further ahead in this matter, as Dr. McKenty, Chairman of the Committee, has had severe illness in his family and has been out of the City for a considerable time, but that Dr. Moorhead desired some information to take East with him. Dr. Moorhead advised that he had spoken to Dr. McKenty recently and Dr. McKenty intended to prepare a few general principles dealing with the relationship of the British North American Act and provincial autonomy. Dr. Moorhead advised it was now recognized that this matter could not be rushed and it would take perhaps three to five years to come to a decision. Dr. Moorhead stated he would get what details he could from Dr. McKenty to take to the Canadian Medical Association Meeting, and would report back to this Executive.

REPORT OF CHAIRMAN OF COMMITTEE ON SOCIOLOGY.

Refractions.

Dr. Moorhead addressed the meeting and stated he had attended several meetings of the City on this matter, and that he was very pleased to report this had for the time being been satisfactorily adjusted and that the contract with the oculists had been renewed until May 1st next.

Statistical Analysis.

Dr. Moorhead advised a survey had been made on the first year's operation of the medical relief plan, and the survey on the second year's operation was now being carried on and a statistician and two stenographers were employed. He stated that both Dr. Jackson and himself had recently been up to the office but were disappointed in the advance being made on this work, as it was not finished and the end was not even in sight. Dr. Moorhead advised he had sent a letter to the panel practitioners in the City suggesting that the surplus fund be used to install the Hollerith system for compiling this information. The Hollerith machine now in use in the Relief offices could be used and it would only necessitate employing someone to run it and a supply of the necessary cards. Dr. Moorhead stated that the City were not interested in any statistics other than the financial end, whereas the Sociology Committee desired statistics on the morbidity, as these were repeatedly being asked for from points throughout Canada.

Dr. Adamson addressed the meeting and stated that the funds accruing should be properly defined. He stated it was not definitely set out whether this fund was the property of the Sociology Committee or of this Association, and he felt that is was to Dr. Moorhead's interests that this be definitely cleared up.

Dr. McGuinness spoke and stated that this money is in a trust fund of the Manitoba Medical Association and the authority for the expending of same is in the hands of this Executive.

Copies of contract signed by the practitioners with the City, authority for the five per cent deduction, and previous minutes authorizing the setting up of this fund, were read. On the suggestion of Dr. McGuinness it was decided that a proper amendment should be made to the last motion passed at meeting on November 26th, 1934, page 0398, to allow the Committee on Sociology to undertake the proposed expenditure.

It was moved by Dr. E. S. Moorhead, seconded by Dr. J. D. Adamson: That this Executive authorize the Committee on Sociology to expend the necessary funds for the carrying out of a permanent statistical record for the Winnipeg medical relief services. —Carried.

COMMITTEE ON ECONOMICS OF CANADIAN MEDICAL ASSOCIATION.

Following discussion, is was moved by Dr. J. D. Adamson, seconded by Dr. F. G. McGuinness: That the Chairman of the Committee on Sociology, and the Secretary of the Manitoba Medical Association, be the two representatives for Manitoba on the Economic Committee of the Canadian Medical Association. —Carried.

AGENDA OF THE EXECUTIVE COMMITTEE OF THE CANADIAN MEDICAL ASSOCIATION.

Dr. Moorhead reviewed the agenda of the Canadian Medical Association Executive Committee, which meeting he is going to attend, and asked the Executive for instructions in regard thereto.

1. Should Ontario Practitioners who are O.M.A. members be asked to pay the C.M.A. membership fee when registering at Ottawa meeting?

Following discussion the meeting felt that any time there were meetings held in Manitoba, fees were always paid.

2. Appointment of Chairman of Committee on Legislation.

This is left to Dr. Moorhead's own judgment.

3. Medical Economics—Consideration of the recommendation regarding the Appointment of an Associate Secretary to deal with Medical Economics.

It was felt that the appointment of an associate secretary to work on the question of medical economics was desirous, but that the name or names submitted should be sent to the Western Provinces for their approval, and whoever receives the appointment should be a resident of the West.

4. Radio Reception.

This question is left to Dr. Moorhead's discretion in any discussion on the subject.

5. Extra-mural Post Graduate Speakers to the Maritimes and to Alberta and Saskatchewan.

Discussion of this took place and as it was not understood it was left in abeyance for Dr. Moorhead to deal with.

6. Health Insurance—Letter from Dr. Milburn re. Barrett's Tentative Plan.

This subject was not understood and it was left in abeyance for Dr. Moorhead to deal with.

7. Medical men practising in drought areas in Provinces of Manitoba, Saskatchewan and Alberta.

Discussion of this took place and some of the executive felt that if the attention of the Dominion Government was drawn to the fact that there was no provision for medical services, that they would make arrangements. Other members, however, felt that this would not be done and pressure should be brought to get action. A suggestion was made that a definite answer be obtained from the Government whether they are concerned or not, and possibly Dr. Moorhead could get in touch with the Alberta and Saskatchewan authorities and present a unified front to obtain relief for these areas. Dr. Moorhead was instructed that it is the opinion of this Executive that doctors in drought areas should be paid.

PLACE AND DATE OF ANNUAL MEETING.

It was moved by Dr. W. G. Campbell, seconded by Dr. E. K. Cunningham: That the 1937 Annual Meeting of this Association be held in the City of Winnipeg, and that it be held in the month of May during the week of convocation, as may be arranged by the Secretary. —Carried.

RE. SPECIALISTS.

Dr. Campbell read a report submitted to the College of Physicians and Surgeons by a Committee appointed for the purpose of studying this matter.

Dr. Trainor advised that he felt the general practitioner should have representation on any Committee discussing this subject, and there should be some coordination between the general practitioner and specialists. He felt, as Dr. Campbell pointed out, the College of Physicians and Surgeons who represent the legal body of the profession, should have the authority for dealing with such a question. Further discussion followed by Drs. Moorhead, Jackson, Clingan and Trainor, Dr. Campbell finally stating he would forward a typewritten copy of the report to each member of the Executive.

It was moved by Dr. O. C. Trainor, seconded by Dr. R. E. Dicks: That a Committee be appointed to take charge of this.

Dr. Thorlakson pointed out a Committee had already been formed, consisting of Dr. Mathers, Dr. Adamson and himself, by the Canadian Medical Association under the Chairmanship of Dr. Gunn.

Dr. Jackson then read a resolution to the Executive of the Medical Council of Canada contained in their letter of December 20th, 1935.

It was moved by Dr. F. G. McGuinness, seconded by Dr. E. K. Cunningham: That Dr. Trainor be Chairman of a Committee of this Executive to deal with this subject.

It was moved by Dr. Trainor: That Dr. Gunn be on this Committee as well as a number of specialists and a number of general practitioners, preferably not more than six.

The President asked Dr. Trainor if he would accept the chairmanship of this Committee and have Dr. Gunn work with him with power to add.

Dr. Trainor accepted.

MEMBERSHIP.

The Secretary advised that the letter which was suggested to be forwarded to all members in arrears, had been sent out and only one fee had been collected, but a number of letters criticising it were received.

Discussing the subject Dr. Thorlakson stated that a page in the back of the Review should be set aside and a list of all the members of the Association in good standing published in each month's issue, as he felt this would be a good reminder for doctors to join, and in the front of the book an application or slip could be attached.

The Secretary read resolution passed at the last Annual Meeting of the Association, amending the Constitution whereby ordinary members of the Association shall remain members until they formally resign etc., page 0478 minute book.

It was moved by Dr. P. H. T. Thorlakson, seconded by Dr. O. C. Trainor: That if satisfactory to the Editor of the Review, that this list of names be published in the Review commencing with the January issue. —Carried.

Dr. McGuinness suggested that the matter of the amendment to the constitution in connection with membership as put through at the last annual meeting, should be reconsidered and if advisable be revised further.

"In all things relating to disease, credulity remains a permanent fact uninfluenced by civilization or education."—*Osler.*

Department of Health and Public Welfare

NEWS ITEMS

DIABETES AS A PUBLIC HEALTH PROBLEM: The following are excerpts taken from an article prepared by Charles F. Bolduan, M.D., and Herman Lande, M.D., regarding "Diabetes as a Public Health Problem" and "The Preventive Aspects of Diabetes" which we hope will prove as interesting to Medical Officers of Health and practising physicians as it has to the members of this Department:—

DIABETES AS A PUBLIC HEALTH PROBLEM

Charles F. Bolduan

"Diabetes is a far greater public health problem than is generally realized. To attack this problem successfully we must have a sound statistical foundation. The disease is not reportable; hence most of our statistical data are based on mortality experience. Careful analysis of the available mortality statistics shows that in many respects the published mortality data are misleading. They seem to indicate that the prevalence of diabetes is rapidly on the increase, that this increase is confined almost exclusively to women, that fifty or sixty years ago diabetes was a rare disease, and that then it was more common among men than among women.

We know that diabetes is a very prevalent condition, and that it is more common among women that among men. We believe that diabetes was always a prevalent disease, but was largely unrecognized, and that it has always been more prevalent among women than among men.

Inasmuch as diabetes is usually associated with later adult life, the aging of the population has undoubtedly brought with it an actual increase in the proportion of diabetics in the community. There is, however, no evidence that in any particular age groups, e.g., 45-55 or 55-65, diabetes is any more prevalent now than it was forty or fifty years ago.

Much diabetes is still unrecognized, due to the failure of physicians to make tests of the urine for sugar on all their patients. With an appreciation of the great prevalence of this disease such tests should become an established routine.

While we know that diabetes is more prevalent among Jews than among non-Jews, we do not know the cause of this difference. Inasmuch as heredity plays a part in diabetes, the more frequent intermarriage of Jews must be borne in mind as a factor.

The difference in diabetes mortality between single females on the one hand, and married and widowed on the other is suggestive of pregnancy as a factor in diabetes. Joslin, to be sure, ascribes the difference to obesity. The point deserves further study.

A considerable number of diabetics still die as the result of diabetic coma. This is a preventable condition demanding, on the one hand obedience on the part of the patient to the physician's instructions, on the other familiarity on the part of the physicians with the clinical management of diabetes.

Many diabetics require surgical treatment. Experience shows that this is most likely to be successful when there is the closest co-operation between a hospital's medical and surgical services in the management of each individual case.

A generation ago the diagnosis of diabetes in an individual usually denoted only two or three years more to live; now, with the aid of insulin, many diabetics live out a normal life span. In this connection it is interesting to see how the average age at death of diabetics has increased since the introduction of insulin.

There is need of much popular health education in order to have all diabetics under the care of qualified physicians. The field is exploited by quacks and nostrum venders who promise the victims cures by means of waters, herb teas, and alleged substitutes for insulin.

THE PREVENTIVE ASPECTS OF DIABETES: There are few chronic diseases of middle life for which the therapeutic and preventive indications are as clearly defined as diabetes. The prolongation of life effected by the discovery and utilization of insulin has made possible statistical studies through which we have acquired a new understanding of certain etiological factors. It is still a matter of controversy whether diabetes is due essentially to a deficiency of insulin or whether it is the result of a physiological imbalance involving several endocrine glands. However, our lack of knowledge of the exact mechanism does not invalidate the evidence that diabetes is hereditary. The studies of White and Pincus are based on the following observations:

1. The almost simultaneous development of diabetes in both members of pairs of identical twins.
2. The greater incidence in blood relatives than in the control population.
3. The demonstration that Mendelian ratios of the recessive type are found in large series of cases selected at random.
4. The demonstration of expected ratios in presumably latent cases. Their investigations have been carefully controlled and the transmission of the responsible genetic factor as a Mendelian recessive is generally accepted.

Their investigations have been carefully controlled and the transmission of the responsible genetic factor as a Mendelian recessive is generally accepted.

The evidence implicating obesity is equally convincing. Between 70 and 80 per cent of diabetics are overweight. A study of individuals accepted for insurance is even more striking. Diabetes develops in a much greater proportion in the overweight, 136 per 100,000 in contrast to 6 per 100,000 in the underweight. Furthermore, the liability to diabetes increases with the degree of obesity. Its increasing incidence with advancing age holds true only for the overweight. Its incidence in various occupations and in various strata of society may be explained largely by the presence of obesity.

Further investigations have demonstrated the increased incidence of diabetes in women at the menopause. This observation strongly suggests the etiological significance of endocrine imbalance with especial involvement of the pituitary. The endocrine factor carries its usual vague implications but the significance of an age of increased susceptibility in the predisposed should be borne in mind.

A temporary depression of carbohydrate tolerance during an acute infection is not uncommon. Diabetes mellitus, however, is rarely if ever of infectious origin. There are no indications for the wholesale eradication of suspected tonsils and teeth. The relationship of gall-bladder disease and diabetes is, however, more significant. The removal of an infected gall bladder or the relief of biliary obstruction may produce a marked improvement of the diabetic status or, in rare instances, the restoration of normal carbohydrate tolerance.

Clinical and laboratory studies have demonstrated the value of exercise in improving glucose utilization. This is not surprising when one considers that 50 per cent of the carbohydrate of the body is stored in the musculature and a large proportion burned there.

The prophylactic measures available to combat the increasing incidence of diabetes are implicit in our knowledge of the etiological factors. First of all we must concentrate on the diabetic and his family. The possibility that the potential diabetics might be selected from those of diabetic heredity by sugar tolerance tests suggest itself but studies based on this test do not warrant its general application. Futhermore, the evaluation of hereditary factors in any particular case is often rendered difficult by the fact that diabetes usually develops in the latter decades of life. There are, however, certain preventive measures that are definitely indicated:

1. When diabetes or diabetic heredity exists the further transmission can be controlled or completely avoided only if the chosen partner in marriage is a non-diabetic of a non-diabetic family.
2. Every effort should be made to prevent the development of overweight in all members of the diabetic family. Relatives should never be allowed to weigh above the normal standard and after the fourth decade should keep 5 to 10 per cent below the standard.
3. The increased susceptibility at the age of menopause is an especial indication for dietetic regulation in the predisposed. There is no evidence to suggest that any known pituitary or ovarian extract will be of value.
4. Diabetic heredity is an additional indication for the surgical eradication of gall-bladder disease.
5. The value of exercise in the utilization of sugar should be explained to the predisposed.
6. In 50 per cent of cases the onset of diabetes is insidious and unaccompanied by symptoms. Urinary and blood studies should therefore be made at regular intervals in those of diabetic heredity after the fourth decade. Such studies should be made after a full breakfast. A mild diabetes can be overlooked if studies are restricted to the fasting blood and urine."

COMMUNICABLE DISEASES REPORTED

Urban and Rural - September, 1936.

Occurring in the Municipalities of:

Anterior Poliomyelitis: Total 202—Winnipeg 41, Selkirk 11, Woodworth 10, Stanley 8, Neepawa 9, Elton 7, Morton 7, Roblin Rural 7, Whitewater 7, Rosedale 6, Lansdowne 5, Louise 5, Brandon 4, Grey 4, Langford 4, St. Andrews 4, St. Vital 4, Charleswood 3, Gretna 3, Sifton 3, St. Boniface 3, St. James 3, Carman 2, Cyprus South 2, Norfolk North 2, Oakland 2, Portage Rural 2, Rossburn Town 2, Turtle Mountain 2, Unorganized 2, Argyle 1, Daly 1, Winnipeg Beach 1, Hillsburg 1, Kildonan West 1, Kildonan East 1, Odanah 1, Pembina 1, Rhineland 1, Roland 1, Shellmouth 1, Strathcona 1, Westbourne 1, Whitehead 1 (Late Reported: June, Morton 1, July, Boissevain 1, Morton 1, August, Boissevain 1, Morton 5, Selkirk 3, St. Andrews 1).

Scarlet Fever: Total 169—Winnipeg 110, St. James 8, Portage Rural 6, Bifrost 6, Grandview Rural 4, St. Boniface 4, The Pas 4, Louise 3, Lawrence 3, Transcona 3, Gilbert Plains Rural 2, Selkirk 2, Argyle 1, Brandon 1, Brooklands 1, Pembina 1, Portage City 1, Siglunes 1, St. Vital 1, Westbourne 4, Unorganized 1, Whitemouth 1, Woodlands 1.

Chicken Pox: Total 54—Winnipeg 28, MacDonald 14, West Kildonan 3, North Norfolk 2, Lac du Bonnet 2, Lorne 1, Rockwood 1, St. James 1, Turtle Mountain 1, Brooklands 1.

Measles: Total 58—Virden 18, Unorganized 9, Siglunes 6, Stonewall 5, Emerson 4, Kildonan West 3, Wallace 2, Winnipeg 2, Brandon 1, Sifton 1, Whitemouth 1 (Late Reported: June, Unorganized 1, July, Ellice 2, August, Unorganized 3).

Tuberculosis: Total 41—Unorganized 4, Dauphin Town 2, Neepawa 2, Shell River 2, Assiniboia 1, Carman 1, Elton 1, Fort Garry 1, Grandview Town 1, Harrison 1, Hillsburg 1, Kildonan East 1, Lansdowne 1, Lorne 1, MacDonald 1, Minnedosa 1, Portage Rural 1, Rockwood 1, Russell 1, Sifton 1, Springfield 1, St. Andrews 1, St. Boniface 1, Winnipeg 12.

Mumps: Total 19—Winnipeg 11, North Norfolk 4, Dauphin Town 1, Louise 1, Morton 1, St. Andrews 1.

Typhoid Fever: Total 14—Shellmouth 6, Portage City 3, Assiniboia 1, Desalaberry 1, Neepawa 1, Siglunes 1 (Late Reported: May, Hanover 1).

Whooping Cough: Total 13—Winnipeg 6, Unorganized 3, Selkirk 2, Shellmouth 1, Ethelbert 1.

Diphtheria: Total 12—Winnipeg 8, Dufferin 2, Fort Garry 1, Minitonas 1.

Erysipelas: Total 8—Winnipeg 4, Morris Rural 1, St. James 2, Whitewater 1.

Influenza: Total 3—(Late Reported: March, Lorne 1, July, Brandon 1, Roland 1).

Puerperal Fever: Total 2—Grandview Town 1, Riverside 1.

Septic Sore Throat: Total 2—Tuxedo 2.

Diphtheria Carrier: Total 1—(Late Reported: July, Hanover 1).

Venereal Disease: Total 121—Gonorrhoea 91, Syphilis 30.

DEATHS FROM ALL CAUSES IN MANITOBA

For the Month of August, 1936.

URBAN—Cancer 55, Pneumonia 10, Tuberculosis 5, Infantile Paralysis 3, Chicken Pox 1, Diphtheria 1, Lethargic Encephalitis 1, Syphilis 3, Measles 1, all others under one year 2, all others 161, Stillbirths 10. Total 253.

RURAL—Cancer 23, Pneumonia 13, Tuberculosis 10, Infantile Paralysis 4, Influenza 3, Lethargic Encephalitis 1, Puerperal Septicaemia 1, Erysipelas 1, Syphilis 1, all others under 1 year 5, all others 138, Stillbirths 18. Total 218.

INDIAN—Tuberculosis 14, Pneumonia 4, Measles 2, all others under 1 year 1, all others 20. Total 41

OBITUARY

DR. JOHN McDIARMID

Dr. John McDiarmid, who was associated with the life of Brandon from its inception and was Mayor of the city for five years, died on October 16th, in his ninety-first year. When he arrived fifty-four years ago he was the only physician in the town, then only a pioneer settlement. He carried on practice until 1914 when he retired, but retirement brought no slackening in his community interest. He was a member of the Session of St. Paul's United Church and Past-Master of the Masonic Lodge.

He was born in Fingal, Ont., and graduated in medicine from Trinity College, Toronto. He practised for a time in Brainstone, and came to Brandon in 1882.

Medical Library University of Manitoba

A summary of the contents of some of the journals available for practitioners, submitted by the Faculty of Medicine of the University of Manitoba. Compiled by T. E. HOLLAND, B.Sc., M.D. (Man.), F.R.C.S. (Edin.).

"The Journal of the American Medical Association"—October, 1936.

"Poliomyelitis": Present knowledge of its bearing on Control—by J. P. Leake, M.D., Medical Director of U. S. Public Health Service, Washington, D.C.

A paper read at the Annual Meeting of the American Medical Association May, 1936. Abstract of discussion is included.

"The Massive Bone Graft in Ununited Fractures"—by Melvin S. Henderson, M.D., Rochester, Minn.

Bony union obtained in 84.5 per cent.

"Present Status of the x-rays as an aid in the the treatment of Gas Gangrene"—by James F. Kelly, M.D., and D. Arnold Dowell, M.D., Omaha.

"Osteomyelitis at Cook County Hospital" With an appraisal of Orr's Method of Treatment—by Marcus H. Hobart, M.D., and Donald S. Miller, M.D., Chicago.

"The Journal of the American Medical Association"—October, 1936.

"Present Status of Dietary Regimens in Urinary Infections"—by Anson L. Clark, M.D., Oklahoma City.

Diet lists and results are given. The opinion is expressed that Mandelic Acid has proven to be an effective urinary antispetic and should be tried before the ketogenic diet.

"Internal Hernia following Round Ligament Suspension"—Report of two cases—by M. A. Michael, M.D., Philadelphia.

"Fibrositis"—by W. S. C. Copeman, M.D., M.R.C.P., London.

A comprehensive paper read at the Mayo Clinic, June, 1936.

"The Canadian Medical Association Journal"—October, 1936.

"Malignant Nephrosclerosis (Malignant Hypertension)—by Leyland J. Adams, M.D., C.M., Montreal.

"Carcinoma Originating in Sebaceous Cysts"—by Donald C. Collins, M.D., M.S. (Surgery), M.S. (Pathology), Los Angeles.

Three cases are recorded. The author states that all sebaceous cysts should be considered as precancerous lesions.

"Embolism and Sudden Thrombosis of the Arteries of the Extremities"—by Robert S. McKechnie, M.D., C.M., Fellow in Surgery, The Mayo Foundation, Rochester, Minn.

"The Practitioner"—October, 1936.

This number contains articles on Advances in Diagnosis and Treatment 1935-36, among which are the following:

"Medical Progress 1935-36"—by Sir Maurice Cassidy, K.C.V.O., C.B., M.D., F.R.C.P.

"Surgical Progress"—by Sir David Wilkie, M.D., Ch.M., F.R.C.S.

"Diseases of the Alimentary Canal"—by Arthur F. Hurst, F.R.C.P.

"Acute Abdominal Disease"—by V. Zachary Cope, M.D., F.R.C.S.

"Cardiovascular Disorders"—by William Evans, M.D., F.R.C.P.

"Diseases of the Blood-Forming Organs"—by John F. Wilkinson, M.D., F.R.C.P.

"Diseases of the Lungs and Pleurae"—by Maurice Davidson, M.C., F.R.C.P.

"Nervous Disorders" — by MacDonald Critchley, M.D., F.R.C.P.

"Diseases of Children"—by Alan Moncrieff, M.D., F.R.C.P.

"Psychological Medicine"—by H. Devene, M.C., F.R.C.P.

"Rheumatic Diseases"—by C. W. Brickley, M.D., F.R.C.P.

"Acute Infectious Diseases"—by William Gunn, M.B., M.R.C.P., D.P.H.

"Allergic Diseases"—by George W. Bray, M.B., M.R.C.P.

"Endocrine Disorders"—by H. Gardiner-Hill, M.D., F.R.C.P.

"Obstetrics and Gynaecology"—by Douglas MacLeod, M.S., M.R.C.P., F.R.C.S.

"Diabetes Mellitus"—by Otto Leylon, M.C., F.R.C.P.

"Renal Disease"—by T. Izod Bennett, M.D., F.R.C.P.

"Inoperable Cancer"—by John Hosford, M.S., F.R.C.S.

INTRODUCING MR. R. STUART McDUFFEE

Mr. Tom Moffat Matheson, who has for the past ten years represented Messrs. Oppenheimer Son & Co., Ltd., of London, England, in Western Canada, has been transferred to Vancouver and will be in Winnipeg on less frequent visits in the future.

Medical contacts on behalf of Messrs. Oppenheimer and also Messrs. Beiersdorf Ltd., of England, will be maintained by Mr. R. Stuart McDuffee.

Following the custom of these leading manufacturers of employing only qualified pharmacists in this capacity, Mr. McDuffee is registered both in California and British Columbia. His father was for many years registrar of the Pharmaceutical Association of B.C. and thus he has a heritage of enthusiasm for, and interest in his profession. The Canadian distributors for Messrs. Oppenheimer and Messrs. Beiersdorf are Van Zant & Co., 357 College St., Toronto.

—Advt.

CITRATED FERROUS CHLORIDE B.D.H.

Ferrous chloride (citrated) is a new iron preparation (British Drug Houses Ltd.) which promises to be of considerable service in the treatment of anaemia. In recent years it has been shown that preparations such as reduced iron, Blaud's pill, and iron and ammonium citrate are only effective when given in massive doses. The disproportion between the minimum effective dose and the maximum amount of iron absorbed is indeed very striking. It is believed that the absorption of iron depends on the formation of ferrous chloride in the stomach, and hence this salt appears to be the rational form in which to administer iron. Unfortunately ferrous chloride is easily oxidized to ferric chloride, and this has hindered its clinical use. The new preparation consists of tablets of citrated ferrous chloride, which are protected from oxidation by a coating of a special varnish. These tablets promise to provide an effective means of iron therapy which avoids the difficulties sometimes associated with massive treatment.

Clinical Section

Peripheral Vascular Disease

By

JOHN M. MCEACHERN, M.D., F.R.C.P. (C.)
Lecturer in Medicine, University of Manitoba,
Assistant Physician, Winnipeg General Hospital

Unusual attention has been directed toward the problems of peripheral vascular disease in the past decade. One is forced to admit that our surgical confreres are in great measure responsible for this intense interest.

I think both physiologist and clinician will admit that the catholic interest of the surgeon in the field of autonomic nervous system has greatly clarified our knowledge of these disorders.

We owe a still greater debt to Buerger, Sir Thomas Lewis, Allen, Brown, Landis, Herman and Reid, whose painstaking labours in this field have been prodigious.

There is an old adage that we see only what we are looking for. No group of disorders is more accessible to the eyes and fingers than those of the extremities, and yet they have been neglected for many years.

With advances in our knowledge, the pessimistic attitude of our forbears toward the treatment of these afflictions has been replaced by one of hope and optimism. The incidence of amputation in Buerger's disease has been tremendously reduced in the larger centres. In fact, the surgeon who amputates an extremity today is keenly anxious to justify his action.

While the eye and the fingers can tell us much about these disorders, the history of the case is often invaluable, such as, the relation of color changes to cold, and the symptoms of inadequate circulation which are often insidious. Coldness, tingling, occasional paraesthesias and pain may be overlooked.

Cramping, severe pain, and intermittent claudication cannot be disregarded. Rest pain is a terminal symptom in peripheral vascular disease. Claudication may occur only in a toe or a finger. Sometimes, if only in the sole of the foot, the patient is treated for fallen arches. Acute occlusions of the arteries may occur with dramatic suddenness. Often they are painful, but in 40 per cent of cases there is no actual pain. The striking similarity of the symptoms of the obstructive arterial lesion to those of coronary disease with angina pectoris and finally coronary thrombosis will be seen. There is this important difference. We cannot palpate the coronary arteries.

From clinical observation of these cases alone much can be learned by the use of the eyes and the fingers. One can observe the thickening and hypertrophy of the nails, often afflicted with ringworm. The shiny, glossy, inelastic skin in the arterio-sclerotic case, the pigmentation, the ulceration, infection, gangrene, or associated phlebitis.

Changes in color may be noted either in response to cold (the three phase color reaction of Raynaud's disease) or with altering the position of the limb.

When arterial obstruction exists, elevation of the limb causes an ischaemic pallor approaching that of the cadaver. This is hastened by rapid movement of the ankle. As the limb is lowered from the vertical there comes a point when color returns to the skin. At this point, the angle which the limb forms with the perpendicular was called by Buerger the angle of vascular sufficiency. The optimal position of the legs must be found for each obstructive case but it is usually 20 to 30 degrees below heart level, a point of value in treatment. Lowering the limb to a dependent position causes an intense purplish discoloration or rubor. Such changes do not occur with normal circulation. Changes in temperature are easily noted by the hand alone, the back of which can appreciate differences as close as 0.5 degrees C. or by a simple skin thermometer, if care is used. The thermocouple is, of course, much more accurate. Skin temperature will vary with the mouth or room temperature and with the humidity. It should be taken at 70° and after the limbs have been exposed to the air for 30 minutes.

The value of skin temperatures is limited to:—

(*a*) The sudden drop in temperature of one extremity as a sign of acute arterial occlusion.

(*b*) Marked differences between symmetrical areas or two extremities, or

(*c*) A rise in temperature after tests which relieve vaso-constriction.

Perhaps the most useful part of the physical examination is the palpation of the arteries. The accessible arteries should be examined routinely in every case, but how often is their condition noted in a history.

The pulsations may be graded in a simple way and the degree of arteriosclerosis or thickening also observed. Absence of pulsations of course means either obstructive arterial disease or an aberrant artery. The important arteries to examine are the brachial, radial, ulnar, femoral, popliteal, dorsalis pedis and posterior tibial.

The brachial artery is most accessible in its upper ⅔ where it may be felt and compressed outwards against the humerus. With the elbow flexed it may be felt close to the bend of the elbow by palpating close to the medial border of the biceps.

At times the radial artery is aberrant and is replaced by a superficial volar branch which is very slender and may give a false impression of pulsation.

The femoral artery is best felt just below the interior edge of Poupart's ligament where it may be compressed against the brim of the pelvis.

The popliteal artery is best felt with the patient lying prone, the leg flexed and relaxed at right angle. The artery passes through the middle of the popliteal space and is best felt in its upper portion. In stout people it is often not possible to palpate it. In these cases we may try this procedure—the knees are crossed so that the popliteal space is supported by the patella of the other leg, a transmitted motion of the foot occurs if the popliteal artery is pulsating.

The posterior tibial artery may be felt at the inner side of the ankle behind the internal malleolus. Sometimes it is not felt in normal individuals.

The dorsalis pedis artery is not felt in 4 per cent of normal subjects. In 8 per cent it is more lateral than the usual location along a line running upward from between the great and second toes.

Probably the best classification of these disorders has been modified from that of John Fraser:

A. Capillary disorders:
   (1) Acrocyanosis
   (2) Erythromelalgic type of disorder (Erythralgia)

B. Arterial disease
   (1) Spasmodic
      (*a*) Raynaud's disease
      (*b*) True erythralgia
   (2) Obstructive
      (*a*) Inflammatory Buerger's with or without vasomotor spasm
      (*b*) Degenerative arterio-sclerosis (no spasm) with or without diabetes
   (3) Acute occlusions
      (*a*) Emboli
      (*b*) Thrombosis (acute)

With this simple classification in mind let us go on to the study of some physiological facts.

We have been accustomed to consider the vascular system upon a well ordered plan of arteries, arterioles, capillaries, venules and veins through which the blood courses to and from the heart. Grant and Bland have shown that direct anastomoses exist in the skin of the hands and feet. Direct channels occur between arteries and veins excluding the capillaries. These are most numerous in the palm, sole and at the end of the digits.

Another significant point R. T. Grant has shown is that these areas are the site of a very profuse distribution of sympathetic nerve fibres. They react violently to various stimuli (dilating to cold, histamine, etc., contracting to adrenalin).

This brings us to a consideration of the process of vaso-constriction.

A stimulus may be originated in a number of ways:

(*a*) An emotion relayed through the thalamus may initiate a widespread response.

(*b*) An emotion may activate the adrenals causing a sympathetic stimulus. Usually, however, a peripheral stimulus is conveyed by efferent nerves. It is relayed through the cord to the rami-communicantes, thence to sympathetic ganglia and the peripheral vessels.

There is convincing evidence by Lewis and his co-workers that local vaso-dilatation occurs in response to a biochemical reaction. A stimulus causes actual damage to the skin releasing an H substance closely resembling histamine and acetylocholine. This may act in two ways (1) directly on the capillary wall and (2) by an axone reflex, that is, a stimulus from the sensory nerves of the skin is reflected directly along the collateral twigs in the affected area. What are the reactions of the normal skin to cold. These normal responses are similar to those seen in disease. They are ably summarized by Fraser.

If we place the hand in cold water 15°*C*—15 to 20 minutes.

(*a*) The surface temperature of the skin falls to within 5°C of water.

(*b*) The surface blanches—muscular activity is sluggish due to vaso-constriction of entire vascular bed. This is a protective mechanism against loss of heat due to a reflex through the cord to the sympathetics and thence to the blood vessels.

If we now place the hand in water of lower temperature, say 10°C.

There is a preliminary pallor and fall in temperature due to vaso-constriction of the arterioles.

This is rapidly followed by a stage of cyanosis. Here another factor is now at work. There is liberation of the H. substance causing capillary and arterio-venous dilatation. At this temperature there are two color reactions, white and blue. The white stage due to reflex arteriolar constriction, the blue to capillary dilatation.

If we now place the hand in water of a still lower temperature—5°C.

The hand aches painfully.

The skin temperature falls to 2° of medium.

At first there is pallor due to generalized vaso-constriction.

Secondly, cyanosis due to liberation of H substance and capillary dilatation.

Thirdly, after about 5 minutes the hand becomes a bright red color.

Why the red color at this low temperature? Unusually low temperature affects the oxygen exchange between vessels and tissues and arterial blood trickles through capillaries into veins. At this low temperature we have the 3 phase color reaction, white, blue and red occurring in normal skin.

Clinical Considerations.

It is difficult to fit the clinical disorders in with many of these physiological facts. We are all familiar with the syndrome now called acrocyanosis.

Acrocyanosis is fairly common. It occurs usually in females. Upon exposure to cold the hands and feet become cold, the movements of the fingers impaired and the skin becomes deep blue in color. If the parts are now heated they become warm, red, painful and swollen.

Red, tender, itchy patches may remain at the pressure points—commonly called pernio or chillblains.

There is a certain resemblance here to the reactions of the normal skin to cold just described. In these susceptible individuals, however, a slighter degree of cold calls forth a severe response. The skin is unduly susceptible to cold and a response similar to that seen with normal skin is called forth at temperatures much above 10°C. The cyanosis is due to sluggish blood flow, diminished oxygen, and increased CO^2. Cold is definitely a factor in the acrocyanotic group.

Another type of disorder is of the *Erythromelalgic* type, usually mild. The cold factor is not so evident here but common to all cases is the bright red skin. The skin is exactly like the hands of a child who has been throwing snowballs. The parts are cold, have a bright red color, and when warmed there is intense discomfort.

When the feet are affected the intense warmth and throbbing of this stage force the victims to keep their feet uncovered in bed. This is probably a similar reaction to that of the normal skin to very low temperature. The capillaries are dilated, the rate of flow retarded by arteriolar constriction, oxygen exchange interfered with, arterial blood trickles through to the veins or is side-tracked by direct anastomosis from arteriole to veins. Sympathetomy is not only unjustified in these mild types but is of little value. Apart from protecting the part from cold there is little to do.

Calcium has been used in acrocyanosis and sulphur, which is said to counteract the H substance, may be applied to the affected areas in the form of ointment.

We now come to the disorders and diseases of the arteries which may be termed the spasmodic group. There are many who believe still in the vaso-motor hypothesis in so far as these diseases are concerned. Raynaud believed that vasomotor overaction was the cause of the disease which bore his name. This view was put forward in 1862, a few years after the vaso-constrictor nerves were first discovered. Having excluded gross disease and eliminated ergot, he naturally used the new idea of disordered innervation. Lewis does not believe that this vasomotor reflex is responsible in toto but that a local fault of the blood vessels due to unusual sensitivity to cold closes the digital blood vessels and that this is the primary cause.

To put the controversial point more clearly. There are two schools of thought.

(1) That there is abnormal vaso-constriction of central origin through reflex disturbance.

(2) That the vaso-constriction is of local origin.

If you believe the first, sympathectomy should produce twice the vaso-dilatation it will if you believe the second theory, but in any case relaxation occurs.

Of the spasmodic diseases, which are accompanied by vaso-dilatation, we have a rare type:

Erethromelalgia. Weir Mitchell described this syndrome in 1872. The description of this type of disorder was obscure, not clear cut. One definition is that "It is a chronic condition of painful redness of the extremities, usually the feet, in which burning pain is brought on by heat or exercise, aggravated by dependent posture, and relieved by elevation or cold." Lewis does not believe this to be due to a vasomotor disturbance but to be similar to the reaction of the skin to agents which cause local injury, such as ultraviolet light, mustard, etc. It is a local malady, rare in its severe chronic forms, common in its mild or early ones. The skin is unusually susceptible to certain forms of injury in these individuals.

In a series of 147 cases of uncomplicated Raynauds disease observed by Brown, only 11 per cent were males. The average age at onset was in the third decade. The most important clinical feature is the three phase colour reaction which is induced by cold.

These reactions are almost exactly comparable to the normal skin reactions to cold just described. There is this important difference; it requires a very slight stimulus to bring on a severe attack. The skin and blood vessels of these patients are hypersensitive. With repeated attacks, chronic cyanosis, trophic changes, brittle nails, sclerodermia and minute symmetrical areas of gangrene may occur.

The important features of these cases are the peculiar sex incidence, the symmetrical, spasmodic nature of the attacks, the three phase colour reaction and, most important of all, the presence of normal pulsations in the larger arteries. Treatment consists chiefly in protection from cold, the empirical use of calcium and in the severe cases, cervical sympathectomy must be considered.

Let us now consider the obstructive lesions. The common and important sign of these lesions is the diminished or absent pulsations in the larger arteries. There are two main types, one which occurs in youth or middle age, i.e., thromboangeitis obliterans or Buergers disease and one occurring at a more advanced age, namely, arteriosclerosis obliterans.

Buergers disease is a chronic relapsing inflammatory disease of the vessels in which occlusion and collateral circulation struggle for supremacy.

A coincident phlebitis occurs in about 30% of cases. The racial incidence is now said to be about 30% Jewish and 70% Gentile. 99% of cases occur in males mostly between the ages of 25 and 50 years. Time will not permit a full discussion of the features of Buergers disease, but it is well to remember that in many cases there is an associated vasospasm of the arterioles which, when relieved by appropriate treatment, the patient may be tided over an acute crisis or threatened gangrene. In arteriosclerosis, on the other hand, vasospasm of the arterioles is rarely noted, in fact actual sclerosis of the arterioles is commonly found. Ordinary dilatory measures consequently have little effect.

Apart from these differences, the treatment of obstructive vascular lesions is very similar.

It is said that 50% of gangrene is caused by some avoidable injury and patients with impaired circulation should receive the careful instructions of Brown and Allen, Hermann and Reid.

They must avoid crushing, bruising and injuring the feet or toes; wear comfortable shoes and soft woolen socks. Many cases of gangrene are caused by the use of strong antiseptics such as iodine or liniments for the cure of athlete's foot. Rest, with the legs at the angle of optimal sufficiency, is of great importance. The use of tobacco is discouraged in Buergers disease. There are many measures of use in relaxing vasospasm. Local heat is of value in the form of a light cradle but the temperature should be kept below 105° F. The postural exercises of Buerger and Allen and contrast baths of hot and cold water are of use in certain cases. Vaccine treatment with Lederles triple typhoid vaccine will dilate the smaller blood vessels in many cases, but general reactions must be avoided.

Tissue extract No. 568, an insulin free pancreatic extract given according to the method of G. E. Brown, has increased the claudication time in some of my cases. It apparently has little or no effect on the collateral circulation. I have had no experience with the 3% saline injections of Gilbert and Samuels. The reports are encouraging.

In very carefully selected cases sympathetic ganglionectomy may increase the collateral circulation. The selection of the case depends among other things upon the degree of vasospasm as measured following the fever test or after spinal anaesthesia. One case now under my care is of interest. A woman, age 29, was seen in May, 1929, by Dr. Adson. At that time she had bilateral pain in the legs on exertion, duration one year. The pulsations were diminished 25% in the radials; 75% in the right and 50% in the left leg. There was marked postural blanching and rubor. The blood pressure was 132/80. A diagnosis of Buergers disease was made and vaccine therapy tried with little result. In January, 1930, a bilateral lumbar sympathectomy, ganglionectomy and trunk resection was done by Dr. Adson.

I saw her first in March, 1936. 6 years later, the pulsations in the arteries were approximately the same. The feet were warm, dry, and there were no postural colour changes. The hands, on the other hand, were cold, moist and bluish. There were no symptoms referable to the extremities. The blood pressure at this time was 240/120, an essential hypertension.

Points of interest in this case:

1. The occurrence of the disease in a woman (only 11 cases have been recorded in women).
2. The marked relief from sympathectomy.
3. The coincident development of essential hypertension.

SUMMARY OF CASES

The histories of 31 cases of peripheral vascular disease have been studied during the past year, most of which have been seen personally on the hospital wards.

Arteriosclerosis was the cause of symptoms in twenty-three cases. Their average age was 62 years. Diabetes was associated in 8 per cent. Buergers disease occurred in 8 cases. The average age of these was 42. Amputation was done in 10 cases with an incidence of 30%. We are not proud of these figures. Much lower figures are given by other large centres.

Such cases in our community are admitted to hospital late. The public in Canada has not been educated about the seriousness of these lesions. They will rush to a doctor about a pain in the chest but are much more likely to go to a chiropodist for pains in the feet. Gangrene was precipitated in 4 cases by the use of strong antiseptics. In two of these cases strong salicylic acid was applied to corns by chiropodists ignorant of the presence of diseased arteries.

The passive vascular exercises of Landis, Gibbon, Hermann and Reid were tried in 14 cases. Very good results were obtained in 11 cases and doubtful results in three. There was a definite increase in claudication time, improvement in color and temperature in the eleven cases. The results were far better in the arteriosclerotic group than in those with Buergers disease, although the figures are too few for accurate comparison. The Paevex treatment to be effective must be applied at regular and frequent intervals to obtain encouraging results.

In our series of cases one hour of treatment three times a week was the minimum. Paevex should not be used in the presence of phlebitis, when gangrene occurs far above the limits of the foot or if there is thrombosis of the femoral arteries.

We have used Paevex in several cases of acute occlusion of a vessel due to embolism or thrombosis. One of these cases is of interest:

Case J. C.—Age 40, had had a mitral stenosis for many years with lately some heart failure. He was seen 6 hours after a sudden loss of sensa-

tion with numbness in the left leg. There was no pain. In 40% of such cases there is no pain.

On examination the left leg was deathly pale, 4° colder than the right and the pulsations were completely absent from the popliteal artery down. Embolectomy was not considered because of the degree of heart failure. One half grain of papaverine hydrochloride was given intravenously with no apparent result. The leg was placed in the Paevex boot at the 7th hour and intermittent positive and negative pressure applied 8 hours daily for some weeks. There was immediate improvement in color and movement when in the boot. Gangrene did not occur in this case.

CONCLUSIONS

In my opinion the prevention of gangrene in occlusive vascular disease depends upon—

1. Early diagnosis of the condition.
2. Early and persistent education and training of the patient in the care of his feet.
3. The use of special methods of treatment which increase the collateral circulation.

It is time that we realized the importance and frequency of these lesions and the methods of preventing acute catastrophies. The public are no longer satisfied with amputation as the sole form of treatment in these diseases.

---

*General Directions to Patients For the Care of the Feet

The circulation in your feet can be greatly improved by increasing the number and size of the smaller arteries (the detour arteries). Gangrene and other catastrophies may be avoided in a large percentage of cases by careful observance of the following rules:—

INJURY

More than 50% of the gangrene which sometimes occurs in cases like yours is caused by some avoidable injury:—

(1) Crushing, bruising of the feet or toes, scratches, cuts, skin cracks, blisters, burns and frost bite must be avoided.

(2) Wash feet each night with a mild face soap and water.

(3) Dry feet with a clean soft towel without rubbing the skin.

(4) Apply vaseline or lanoline and massage the feet each night.

(5) Do not use hot water bottles, electric pads or any other mechanical heating device.

(6) Wear comfortable shoes which do not pinch or rub—shoes of soft leather are best. New shoes should be worn only one hour a day for the first week.

(7) Toe nails should be cut straight across in a good light after cleansing feet.

(8) Corns, callouses, and bunions should not be cut.

(9) Untrained or ignorant chiropodists may cause loss of a leg if they do not recognize the impaired circulation.

(10) Do not wear circular garters or sit with the legs crossed.

(11) Minor operations on the toes cause many cases of gangrene.

(12) Remember that cold or heat are dangerous to those with impaired circulation.

(13) 30% of cases of gangrene are caused by strong antiseptics, particularly by iodine, lysol, carbolic acid, strong ointments and liniments for "athletes foot," etc.

(14) If you unavoidably injure or burn your feet, call your physician immediately. Similarly with blisters, painful corns, etc.

(15) Athletes foot must be avoided at all costs. Such infection may be picked up in public showers at beaches, hotels and golf clubs.

(16) Drink from three to four quarts of water daily if the kidneys and heart are normal.

(17) **Do not use tobacco** in any form.

(18) Carry out the exercises and special treatment as prescribed.

HOME TREATMENT

1. **Rest** is the most important thing when the circulation is impaired. If ulceration or infection occurs, it may be necessary to rest in bed for considerable periods.

2. **Postural Exercises.**

(a) Lie on your back on a bed or couch and elevate the feet to a vertical position until the bad foot becomes white (blanched).

(b) Sit on the edge of the bed with the legs hanging down over the side till the color begins to return to the feet.

(c) Lie on your back with the legs in a horizontal position for one minute.

Repeat these three manoeuvers four or five times, a total of ten minutes a day.

3. **Contrast Baths:** Place cold water in a container large enough to immerse both feet to the mid leg. The temperature of the water should be 40°—50° F. Hot water of 102°—105° F is placed in another container. Put foot in hot water 1 minute, then in cold water 30 seconds and repeat five to ten times. A bath thermometer must be used. Contrast baths are never used when ulceration, infection or gangrene is present. If the feet become soggy, the baths must be discontinued.

4. Other special methods of treatment will be individually prescribed.

* Adapted from instructions of Brown, Allen, Hermann and Reid.